UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/741,808	12/19/2003	Brent S. Baxter	884.B82US1	2599

21186 7590 10/18/2007

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER	
XU, KEVIN K	

ART UNIT	PAPER NUMBER
2628	

MAIL DATE	DELIVERY MODE
10/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/741,808	BAXTER ET AL.	
	Examiner	Art Unit	
	Kevin K. Xu	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6-15* is/are allowed.

6)☒ Claim(s) *1-5, 16-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 7/30/07 have been fully considered but they are not persuasive. Firstly applicant has argued that Deering fails to teach "applying multi-texturing to each of a series of objects during one pass through a graphics processing pipeline." It should be noted that examiner has relied on Deering to show the object (propeller) in each of its different positions (T=1, T=2, etc..) are motion blurred and the Lengyel reference was utilized to show that it is possible to utilize texture layers (instead of just objects per se) to give the illusion of motion with motivation of providing factoring a rendering of a scene into layers which allows target of resources of where the ink and paint arts of cartoons or the graphics pipeline of those parts of the scene are most important (see previous office action). Lastly the Morgan reference from the previous office action was relied upon in combination of Deering, Lengyel et al to show utilization of one pass through a graphics-processing pipeline provides the added benefit of greater computational efficiency. Thus, while Deering per se does not explicitly address said limitation, Deering in view of Lengyel and Morgan does teach this.

Furthermore applicant has amended claim 1 reciting "...acquiring the series of objects, and for each of the objects in the series, generate at least one texture that is mapped to the object, shift the texture outside the perimeter of the object along a path of travel of the series of objects to generate at least one shifted texture for the object and blend the at least one shift texture with the object to which the texture is mapped to form a blurred copy of the object..." and has subsequently argued that Deering et al

fails to explicitly teach this limitation. Examiner respectfully disagrees. Firstly it should be noted that Deering does teach *shifting an object* outside the perimeter of the object along the path of travel of the series of objects to generate at least one shifted object and blending the at least one shifted object with the other object to from a blurred copy of the object. (Col 29 line 55-Col 30 line 18, Col 30 lines 40-57, Col 32 lines 32-40) It should be noted that Deering teaches samples of the object (helicopter propeller) in each of its different positions (direction of movement being for rendering time T=1 to T=2 and so forth) are blended to result in a motion blurred effect. Additionally, Deering explicitly teaches objects or primitives to be motion blurred may be blended with previous contents of the sample buffer (e.g. object information from the previous frame) and thus, allowing the object to be blurred from its previous position to its current position. Regarding applicant's amendment of "the object being outside the perimeter of the object along the path of travel of the series of objects" it should be noted that Deering teaches an object (that being a helicopter propeller at time T=3 for e.g.) may be at a different position than initial perimeter of the position of the helicopter propeller at T=1 and thus, the object moved to the position corresponding to T=3 would be outside the perimeter of the initial object at frame T=1. Again it should be noted that the Lengyel reference was utilized to show that it is possible to utilize texture layers (instead of just objects per se) to produce the illusion of motion with motivation of providing factoring a rendering of a scene into layers which allows target of resources of where the ink and paint arts of cartoons or the graphics pipeline of those parts of the scene are most important (see previous office action).

Applicant's arguments with respect to claim 16 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claim 4, it should be noted that Lengyel fails to explicitly teach bump texturing and Kato is simply utilized to teach this additional feature. (Col 3, lines 25-33) with motivation being because bump mapping provides the functionality of providing an uneven appearance of the surface, which can be put in a pattern of a rock face, a brass work or a water ring (Col 3, lines 28-31) and thus a more realistic texture representation can be achieved.

Regarding claims 17, 18 and 20, the reference of Kawahara is utilized to show a graphical user interface object may be animated onto the screen with motivation being window-based interfaces allow users to manipulate windows through a pointing device (such as a mouse) (p. 1 paragraph 5) and in addition, provides the functionality of rotating windows in a 3D display model, so that windows are viewed from an oblique angle through the 2D display, whereby the contents of the windows remain visible, while the windows occupy less space in the 2D display and are less likely to overlap each other. (p. 1 paragraph 17)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deering (6956576) in view of Lengyel ("Rendering with Coherent Layers") in further view of Becker (6392675) and Morgan (6756989).

Regarding claim 1 Deering explicitly teaches generating a plurality of blurred copies of an object including acquiring the series of objects and for each objects in the series, shift an object outside the perimeter of the object along a path of travel of the seires of objects to generate at least one shifted object for the object and blend at lesa tone shifted object with the object to form a blurred copy of the object and displaying in succession each of the generated plurality of blurred copies of the object to create the illusion of motion. (Col 29 line 56- Col 30 line 18, Col 32 lines 32-40, Fig. 26) It should be noted that Deering teaches samples of the object (helicopter propeller) in each of its different positions (direction of movement being for rendering time T=1 to T=2 and so forth) are blended to result in a motion blurred effect. Additionally, Deering explicitly teaches objects to be motion blurred may be blended with previous contents of the sample buffer (e.g. object information from the previous frame) and thus, allowing the object to be blurred from its previous position to its current position. In addition, it should be noted that Deering teaches an object (that being a helicopter propeller at time T=3 for e.g.) may be at a different position than initial perimeter of the position of the helicopter propeller at T=1 and thus, the object moved to the position corresponding to T=3 would be outside the perimeter of the initial object at frame T=1. Nonetheless Deering fails to explicitly teach objects blended to give the illusion of motion are associated with texture. This is what Lengyel teaches. (p. 1 introduction, p. 1 Fig. 2, p.

2 Section 1.1, p. 3 section 2.3, p. 4 section 3.2 and p. 4 section 3.4, p. 4 section 3.2 and p. 4 section 3.4) It should be noted Lengyel teaches the blended object is formed from blending texture image layers (p. 3 section 2.3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of objects associated with texture information into the system of Deering because employing textures provides factoring a rendering of a scene into layers which allows target of resources, whether the ink and paint arts of cartoons or the graphics pipeline to those parts of the scene that are most important. (Abstract) Nonetheless neither Deering nor Lengyel teach the graphical user objects creating an illusion of motion. This is what Becker teaches. (Col 4 lines 5-10, Col 5 lines 4-11, Fig. 2 and Fig. 4) It should be noted that the GUI object as taught by Becker is a mouse cursor with path (movement) cursor takes identified by "pointer trails." It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of a graphical user object such as a mouse cursor with pointer trails into the system of Deering because providing the functionality of utilizing pointer trails for following movement of the cursor (Col 5 lines 4-11) can be realized and thus, providing an additional utility of creating an illusion of motion for GUI objects can be achieved. Lastly Deering, Lengyel and Becker fail to explicitly teach one pass through a graphics-processing pipeline. This is what Morgan teaches (Col 2 lines 21-31, Col 13-14 line 65-line 8) It would have been obvious to one of ordinary skill in the art at the present time the invention was made to utilize one pass through a graphics processing pipeline of Morgan into the system of Lengyel in order to generate blurred copies of an object by

applying multi-texturing because a one pass graphics processing pipeline is more computationally efficient than multi-pass pipeline and thus, processing time can be reduced.

Regarding claim 2, Deering teaches for at least one of the series of objects, shifting object to the at least one of the series of objects includes both shifting the object from a leading edge and from a trailing edge of the at least one of the series of objects. (Col 29 line 56- Col 30 line 18, Col 32 lines 32-40, Fig. 26) It should be noted that for example the object of the helicopter propeller as taught by Deering would contain with a leading edge and a trailing edge of the propeller and thus, by shifting the object as a whole (the propeller), you are shifting a leading edge and a trailing edge. However Deering does not explicitly teach objects may be texture mapped objects which may be utilized to give the illusion of motion. This is what Lengyel teaches. (p. 1 introduction, p. 1 Fig. 2, p. 2 Section 1.1, p. 3 section 2.3, p. 4 section 3.2 and p. 4 section 3.4, p. 4 section 3.2 and p. 4 section 3.4) It should be noted Lengyel teaches the blended object is formed from blending texture image layers (p. 3 section 2.3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of objects associated with texture information into the system of Deering because employing textures provides factoring a rendering of a scene into layers which allows target of resources, whether the ink and paint arts of cartoons or the graphics pipeline to those parts of the scene that are most important. (Abstract)

Regarding claim 3, Deering teaches displaying a plurality of blurred copies of the object on a visual display. (Col 29 line 56- Col 30 line 18, Col 32 lines 32-40, Fig. 26)

Regarding claim 5, Deering teaches generating blurred copies of the object by applying multi-texturing to the object during one pass through the graphics processing pipeline further comprises displaying the blurred copies of the object on a visual display coupled to a communication device. (Fig. 5) It should be noted that the communication device as taught by Deering is a keyboard and/or mouse.

Regarding Claim 16, Lengyel teaches generating a texture and shifting the texture with respect to the object before applying the shifted and blended texture to each of a series of objects. (p. 3 section 2.3 and p.4 section 3.2) It should be noted that Fig. 8 and Fig. 11 show shifting of texture. (p.4 section 3.2 and p. 4 section 3.4) Furthermore, Lengyel teaches the texture layers are composited to produce the final image. (p. 3 section 2.3, Fig 2 and Fig. 6) and therefore, applying texture (compositing texture layers) to the object (final image) occurs after generating a texture and shifting the texture of each layered image (sprite). It would have been obvious to generate texture and shift said texture prior to applying texture of the object because said texture layers to be utilized for applying multi-texturing must be first generated prior to being applied it to the said objects. Furthermore Morgan teaches the recitation of a graphics processor coupled to texture memory. (Col 4 lines 51-67, Col 5 lines 58-64) It would have been obvious to one of ordinary skill in the art at the present time the invention was made to utilize a graphics processor coupled to texture memory of Morgan into the system of Lengyel in order to process texture information because graphics processors

are designed to be very efficient at rendering and manipulating computer graphics. However Deering et al does not explicitly teach wherein each successive instance of the object to which the shifted and blended texture is applied is reduced in size to simulate the effect of moving from a front of a viewing space to a rear of the view space when the successive instance of the object are viewed in succession. Nonetheless it should be noted that Deering does teach wherein each successive instance of the object to which is shifted and blended simulates the effect of moving. Examiner takes official notice that it is well known to animate objects that have movement in a certain direction (e.g. forward to background, closer to further away). It would have been obvious to one of ordinary skill in the art at the time the invention was made to animate objects that have movement in a certain direction in order to simulate the effecting of moving from front of viewing space to back of view space because movement capturing depth can be achieved and a more realistic rending of a moving object may be realized.

Regarding claim 19, Deering teaches wherein the object displayed on the visual display provides the illusion of motion. (Col 29 line 56- Col 30 line 18, Col 32 lines 32-40, Fig. 26) It should be noted that the object as taught by Deering may be considered an airplane propeller and samples representing the object (propeller) in each of its different positions (samples drawn at time T=1 to T=4 are blended to result in a motion blurred output pixel. Motivation to combine a graphical user interface object into the system of Deering is given in claim 16.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Deering (6956576) in view of Lengyel ("Rendering with Coherent Layers") and Becker (6392675) in further view of Morgan (6756989) and Kato. (5999185)

Regarding claim 4, Lengyel fails to explicitly teach bump texturing. This is what Kato teaches. (Col 3, lines 25-33) It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of bump texturing as taught by Kato into the system of Lengyel in order to generate blurred copies of the object by applying multi-texturing to the object because bump mapping provides the functionality of providing an uneven appearance of the surface, which can be put in a pattern of a rock face, a brass work or a water ring (Col 3, lines 28-31) and thus a more realistic texture representation can be achieved.

Claims 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deering (6956576) in view of Lengyel ("Rendering with Coherent Layers") and Becker (6392675) in further view of Morgan (6756989) and Kawahara (20050204306).

Regarding claim 17, Deering fails to explicitly teach a graphical user interface object. This is what Kawahara teaches. (p. 2 paragraphs 25 and 28, p. 3 paragraph 59, p. 5 paragraph 86 and Fig. 10) It should be noted that the graphical interface user object as taught by Kawahara is a graphical user interface window. It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of a graphical user interface object into the system of Lengyel in order to apply shifted and blended texture information because window-based interfaces allow users to manipulate windows through a pointing device (such as a

mouse) (p. 1 paragraph 5) and in addition, provides the functionality of rotating windows in a 3D display model, so that windows are viewed from an oblique angle through the 2D display, whereby the contents of the windows remain visible, while the windows occupy less space in the 2D display and are less likely to overlap each other. (p. 1 paragraph 17)

Regarding claim 18, Deering fails to explicitly teach a graphical user interface object comprises a graphical user interface window. This is what Kawahara teaches. (p. 2 paragraphs 25 and 28, p. 3 paragraph 59, p. 5 paragraph 86 and Fig. 10). It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of a graphical user interface window into the system of Lengyel in order to apply shifted and blended texture information because window-based interfaces allow users to manipulate windows through a pointing device (such as a mouse) (p. 1 paragraph 5) and in addition, provides the functionality of rotating windows in a 3D display model, so that windows are viewed from an oblique angle through the 2D display, whereby the contents of the windows remain visible, while the windows occupy less space in the 2D display and are less likely to overlap each other. (p. 1 paragraph 17)

Claim 20 is similar in scope to claim 19 except for the recitation of a graphical user interface window. This is what Kawahara teaches. (p. 2 paragraphs 25 and 28, p. 3 paragraph 59, p. 5 paragraph 86 and Fig. 10). It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of a graphical user interface window into the system of Lengyel in order to

apply shifted and blended texture information because window-based interfaces allow users to manipulate windows through a pointing device (such as a mouse) (p. 1 paragraph 5) and in addition, provides the functionality of rotating windows in a 3D display model, so that windows are viewed from an oblique angle through the 2D display, whereby the contents of the windows remain visible, while the windows occupy less space in the 2D display and are less likely to overlap each other. (p. 1 paragraph 17)

Allowable Subject Matter

Claims 6-15 are allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin K. Xu whose telephone number is 571-272-7747. The examiner can normally be reached on 8:30AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman can be reached on 571-272-7653. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KX

Kevin Xu

10/14/07

MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINE
TECHNOLOGY CENTER 260